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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,133	12/22/2004	Bernd Papenfuhs	3669.1001-000	7500

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HAMILTON, BROOK, SMITH & REYNOLDS, P.C.  
530 VIRGINIA ROAD  
P.O. BOX 9133  
CONCORD, MA 01742-9133

EXAMINER

BERNSHTEYN, MICHAEL

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 05/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/519,133	Applicant(s) PAPENFUHS ET AL.	
	Examiner Michael Bernshteyn	Art Unit 1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 16-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/22/2004</u> | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

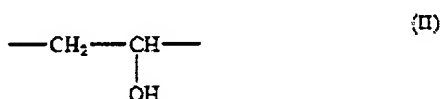
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were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claims 16, 20 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Fuss et al. (U. S. Patent 6,808,858).

With regard to the limitation of instant claims 16 and 21, Fuss discloses a light-sensitive composition containing: (i) at least one diazonium polycondensation product or at least one system that can be radically polymerized and consists of photoinitiators and unsaturated compounds; (ii) at least one binding agent and optionally one or more exposure indicators, one or more dyes for increasing the image contrast and one or more acids for stabilizing the light-sensitive composition which is characterized in that the binding agent essentially consists of units (A, B, C, D) (abstract).

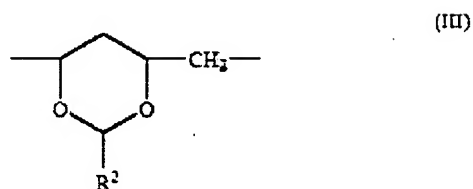
The component B being present in an amount of from 0.1 to 60 mol %, preferably from 20 to 55 mol %, and corresponding to the formula



This group of monomers is readable in applicant's claims as being monomer a).

The component C being present in an amount of from 10 to 80 mol %, preferably from 25 to 65 mol %, and corresponding to the formula

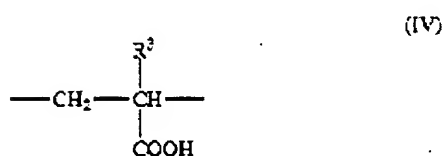
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in which  $R^2$  is a hydrogen atom, an alkyl radical having from 1 to 10 carbon atoms which may be unsubstituted or substituted with at least one carboxyl group, sulfonic acid group, hydroxyl group or at least one halogen atom, preferably a methyl, ethyl or propyl group, or an aryl group which may be unsubstituted or substituted with at least one alkyl group, carboxyl group, sulfonic acid group, hydroxyl group or at least one halogen atom, it being possible for this unit to be present several times with different radicals  $R^2$  independently of one another.

This group of monomers is readable in applicant's claims as being monomer b).

The component D being present in an amount of from 1 to 20 mol %, preferably from 2 to 8 mol %, and corresponding to the formula



in which  $R^3$  is a hydrogen atom or alkyl radical having 1 to 10 carbon atoms, which may be unsubstituted or substituted by a carboxyl group,  $R^3$  preferably being a hydrogen atom, a methyl group or  $-CH_2COOH$  group (col. 3, line 46 through col. 4, line 21).

This group of monomers is readable in applicant's claims as being monomer d).

Therefore, the first essential component is a polyvinyl alcohol, which contains a carboxyl group bonded directly to the main chain and some of whose OH groups are acetalated. Copolymers of vinyl alcohol, a vinyl ester and an olefinically unsaturated carboxylic acid serve as starting material (col.4, lines 40-46). The synthesis starting from **acetaldehyde**, **propionaldehyde** and **butyraldehyde** or **acetals** (this group of monomers is readable in applicant's claims as being compound (B)), thereof with lower alcohols  $R^4OH$  is particularly preferred (col. 4, lines 63-65). The preparation of the acetal polymers can be carried out by known processes in the presence of catalytic amounts of acid. Preferred acids are hydrochloric acid, phosphoric acid, or organic sulfonic acids (col. 5, lines 5-9).

Therefore all the limitations of instant claims 16 and 21 are met by Fuss.

With regard to the limitation of instant claim 20, Fuss discloses that the composition may furthermore contain a **plasticizer**. Preferred plasticizers include dibutyl phthalate, triaryl phosphate and dioctyl phthalate (col. 7, lines 25-27).

2. Claims 17-19 and 24-25 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Fuss et al. (U. S. Patent 6,808,858).

With regard to the limitation of instant claims 17-19 and 24-25, Fuss does not disclose the total content of esterified and non-esterified carboxyl groups in polyvinyl acetal, and that the polyvinyl acetal has a weight mean of molecular weight of less than 1,000,000 g/mol. However, in view of substantially identical composition in term of monomer a) and monomer d) and their amounts between Fuss and instant claims, it is

the examiner position that Fuss's composition inherently possesses all these properties. Since the USPTO does not have equipment to do the analytical test, the burden is now shifted to the applicant to prove otherwise. *In re Fitzgerald* 619 F 2d 67, 70, 205 USPQ 594, 596 (CCPA 1980).

3. Claims 22, 23, and 26-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuss et al. in view of D'Alelio (U. S. Patent 2,332,889).

The disclosure of Fuss's reference resided in § 1 is incorporated herein by reference.

With regard to the limitation of instant claims 22 and 23, Fuss does not disclose that the thermal crosslinking is carried out in an extruder, a kneading unit or another heatable unit, and the molding compound containing a polyvinyl acetal.

D'Alelio discloses a synthetic composition comprising hydrolyzed, acetalized, and/or ketalized copolymers of vinyl esters and organic nitriles (abstract). The **molded compositions** may be molded, extruded or injected at elevated temperatures, e.g., 125<sup>0</sup> to 225<sup>0</sup>C and at suitable pressures in compression molding (page 8, right column, lines 9-15).

With regard to the limitation of instant claims 27-28, Fuss does not disclose that the composition can be used in a film and laminated safety glasses.

D'Alelio discloses a synthetic composition comprising hydrolyzed, acetalized, and/or ketalized copolymers of vinyl esters and organic nitriles (abstract). These materials have valuable characteristics properties that make them especially suitable for use in **molding, laminating, coating and adhesive applications**, and for other

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purposes (page 1, left column, lines 1-6). They can be used as electrically insulating materials, and also they may be used in the production of so-called "**safety glass**," wherein superimposed layers of glass are firmly united with a binder comprising one or more of these synthetic composition (page 8, right column, line 75 through page 9, left column, line 7).

Both references are analogous art and belong to the same field of endeavor concerning carboxyl group-containing acetal polymer compositions and using the final polymers for different applications.

Therefore it would have been obvious to one having ordinary skill in the art when the invention was made to obtain the polymer composition of carboxyl group-containing acetal polymers as taught by Fuss using molding, extruding or injecting at elevated temperatures as taught by D'Alelio in order to obtain molding compounds which can be used to provide a wide variety of industrial products intended for use in areas of laminating, coating and adhesive applications, wood flour, paper, cloth, etc. (US'899, page 8, left column, line 60 through page 8, right column, line 35), because such compositions have good adhesive properties and excellent resistance to heat, water and organic solvents, and thus to arrive the subject matter of instant claims 22-23 and 27-28.

With regard to the limitation of instant claim 26, Fuss does not disclose that the crosslinked polyvinyl acetal and the polyvinyl acetal are present in a weight ratio in the range from 1:10 to 10:1.



It is noted that the amount of the weight ratio of the components A and B is a result effective variable, and therefore, it is within the skill of those skilled in the art to find the optimum value of a result effective variable, as per *In re Boesch and Slaney* 205 USPQ 215 (CCPA 1980). See also *Peterson*, 315 F.3d at 1330, 65 USPQ2d at 1382: "The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages."

With regard to the limitation of instant claims 29 and 30, Fuss discloses that the subsequently dried substrates are coated with the photosensitive compositions. The polymers suitable for the **top layer** include polyvinyl alcohol, polyvinyl alcohol/polyvinyl acetate copolymers, etc. (col. 7, lines 49-61).

Thus, the combination of Fuss and D'Alelio renders all instant claims *prima facie* obvious in view of absent of unexpected results commensurate in scope of the claims.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Bernshteyn whose telephone number is 571-272-2411. The examiner can normally be reached on M-F 8-5:30.

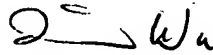
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Bernshteyn  
Patent Examiner  
Art Unit 1713

MB  
05/09/2006

  
DAVID W. WU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700